

DIAXYLARY LATICIFEROUS CELLS OF BEAUMONTIA  
GRANDIFLORA

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*Plate 41*

AMONG the specimens taken for anatomical studies from the Harvard Botanical Gardens in Cienfuegos, Cuba, by Dr. R. H. Wetmore and the writer are stems of *Beaumontia grandiflora* Wall., an East Indian member of the Apocynaceae.

When the living stems are cut there is a copious exudation of latex. Stained transverse sections of the stem show a general distribution of latex cells in the phloem and an abundance of these elements in the outer region of the pith. Radial sections of the stem show these laticiferous members to be devoid of cross walls. Figure 2 pictures a meandering latex cell in the pith and figure 5 shows one in the phloem, surrounded by parenchyma. When tissue is differentiating below meristems some of these latex cells apparently work across the procambial region. As this region matures the cells adjacent to the latex cell are affected so that they remain parenchymatous (figures 1 and 4).

Often the latex cells do not pass from the pith to the xylem at right angles to the vascular elements but rather they swing in an arc for some distance finally settling in a horizontal position in the xylem (figures 1, 3, 4, 6, 11). Figures 1 and 3 picture the pith at the left, then several files of intraxylary phloem cells (sieve tubes with slime plugs), while the remaining tissue is xylem. Occasionally in the transverse section a latex cell is seen extending from the pith into the xylem entirely in the horizontal plane (figure 8, pith is in lower portion of the photograph). Figure 7 shows a similar situation where a latex cell extends from the xylem out into the phloem. As cambial activity increases the size of the stem the latex cell also apparently grows at the cambial region.

It has been mentioned above that parenchyma cells near the latex cell do not differentiate, in fact they make up what is essentially a ray. This is clearly shown in the tangential section through the xylem (figures 9 and 10). Figure 10 depicts the latex cell surrounded by parenchyma while figure 9 shows it in contact with wood fibers on one side. These two conditions appear in about equal proportions.

The fact that these horizontal latex cells accompanied by parenchyma connect with the vertical laticiferous system in the phloem